L12 ANSWER 3 OF 6 WPIDS (C) 2003 THOMSON DERWENT
AN 2001-483279 [52] WPIDS
DNN N2001-357692 DNC C2001-144970
TI **Determination** and prediction of parameters of interest in mixed aqueous medium, e.g. wastewater, involves utilizing multichannel **fluorescence** measurements and multivariate analysis.
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AU 2001028315 A 20010807 (200174)
ADT WO 2001055717 A1 WO 2001-DK52 20010125; AU 2001028315 A AU 2001-28315 20010125
FDT AU 2001028315 A Based on WO 200155717
PRAI DK 2000-125 20000126
AB WO 200155717 A UPAB: 20010914
NOVELTY - A parameter of interest in a mixed aqueous medium is **determined** and predicted by using multichannel **fluorescence** measurements. The results of these measurements are then subjected to multivariate analysis.
DETAILED DESCRIPTION - **Determination** and prediction of parameter(s) of a mixed aqueous medium comprises (a) illuminating the medium with a light having at least two predetermined **excitation** wavelengths to fluoresce the component(s) in the medium; (b) **detecting** the **fluorescence** emitted from the component(s) at at least two different predetermined **detection** wavelengths; and (c) comparing the **detected fluorescence** with registered **fluorescence** values to **determine** the parameter(s). The parameters are one that cannot be directly **determined** by **fluorescence** measurements.
USE - For **determining** and predicting parameters in mixed aqueous system, e.g. water in wastewater treatment plant, sea or lake water, ground water, drinking water, process water for an industrial application, or water comprising a biological system (claimed).
ADVANTAGE - The multichannel **fluorescence** measurements can be utilized not only for **determining** the concentration of parameters that fluoresce, but also for parameters that do not directly fluoresce, since the values of such non-fluorescing parameters can be correlated with the concentration of one or more substances with measurable **fluorescent emission**. The use of data processing devices adapted to perform multivariate analysis creates models in which the concentration of a non-fluorescing parameter is quantitatively correlated with measured **fluorescence** values for fluorescing substances in the aqueous medium. Such models further make it possible to predict the values of parameters of interest downstream in a given system. It is possible to calibrate and develop the model continually or at selected intervals using a learning set with known values of the parameters of interest. The result is an intelligent system that is able to automatically improve its measurements or predictions and to adapt the model to changing circumstances. The **fluorescence** measuring technique is stable and reliable with high sensitivity and low operating cost.
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